

MEMORANDUM

DATE: June 30, 2011

TO: Nick Hetrick, Arcata FWO

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SUBJECT: 2011 Klamath River Salmonid Health Monitoring

As a component of Klamath River fish health assessment, the California-Nevada Fish Health Center is examining juvenile Klamath River Chinook salmon to monitor the prevalence of *Ceratomyxa shasta* and *Parvicapsula minibicornis* infection. Fish are collected by biologists with the Karuk Tribe, Yurok Tribe, Hoopa Tribe and US Fish and Wildlife Service. The CA-NV Fish Health Center is coordinating disease monitoring efforts and providing laboratory support for the project.

Myxozoan Parasite Pre-Screening of Hatchery Fall Chinook

Myxozoan pre-screening of Iron Gate (IGH) and Trinity River Hatchery (TRH) Fall Chinook salmon was completed in May. IGH Fall Chinook had very low levels of *C. shasta* by QPCR in 3/40 (7.5%) of random grab samples from the fingerling lot; *P. minibicornis* was not detected. IGH initiated Fall Chinook salmon releases on June 23rd.

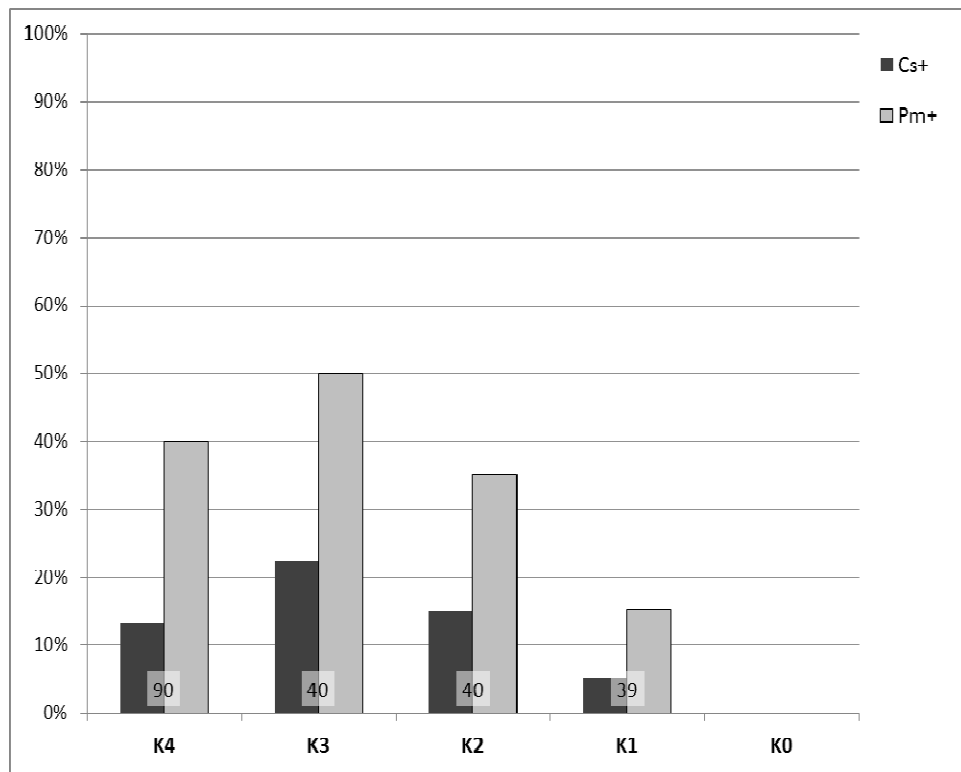
TRH Fall Chinook salmon were negative for both *C. shasta* and *P. minibicornis* in the 62 fingerlings examined on May 19th. Trinity Hatchery volitional releases for Fall Chinook salmon were initiated June 1st.

Myxozoan Parasite Monitoring of Natural Fall Chinook

QPCR testing has been performed for the majority of natural fish collected from 4 Apr through 13 June for all main stem reaches. Data is summarized for all natural fish by reach in Figure 1, and then by weekly sample period for each reach in Figures 2-5.

Ceratomyxa shasta has been detected in 13.9% (29/209) and *Parvicapsula minibicornis* has been detected in 36.4% (76/209) of natural origin Klamath Chinook juveniles tested thus far.

Sampling and testing emphasis will be directed towards recovery of coded-wire tagged juveniles in main stem reaches and the estuary, now that IGH has released the juvenile Fall Chinook production lot. All data is preliminary and subject to revision, the next update is planned for the end of July.



Reach	Total Number of Samples (N)	Number <i>Cs</i> Positive	Number <i>Pm</i> Positive
K4	90	12	36
K3	40	9	20
K2	40	6	14
K1	39	2	6
K0	NT		

Figure 1/Table 1. Prevalence of *Ceratomyxa shasta* and *Parvicapsula minibicornis* infection in naturally produced juvenile Klamath River Chinook salmon by capture reach. Sample numbers collected in each reach are displayed at the bottom of each column. NT= Not Tested. All data is preliminary and subject to revision.

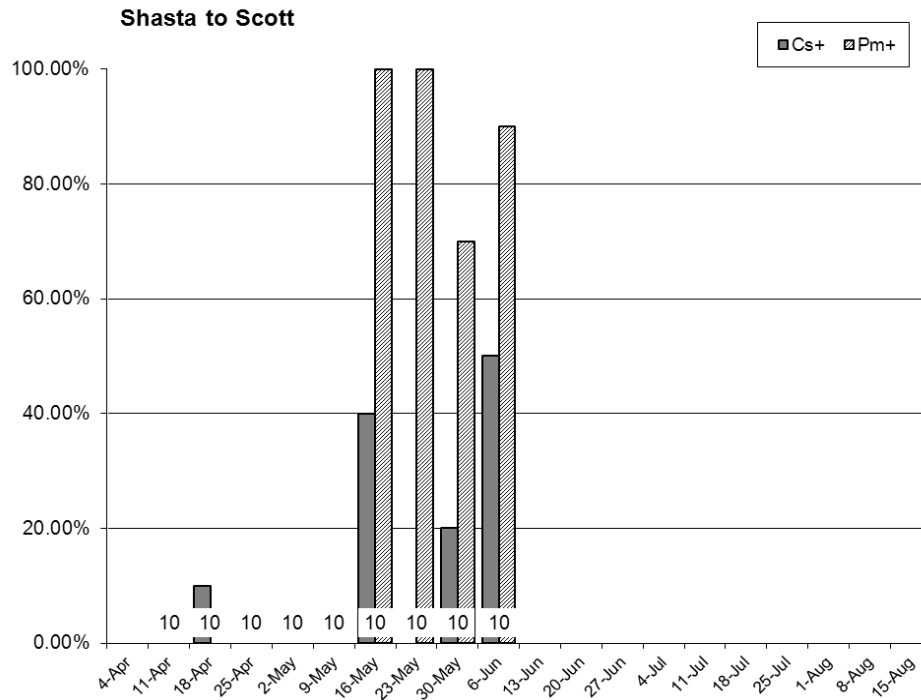


Figure 2/Table 2. Weekly prevalence of *Ceratomyxa shasta* and *Parvicapsula minibicornis* infection in juvenile Chinook salmon captured in the Shasta to Scott (K4) reach on the Klamath River. All data is preliminary and subject to revision.

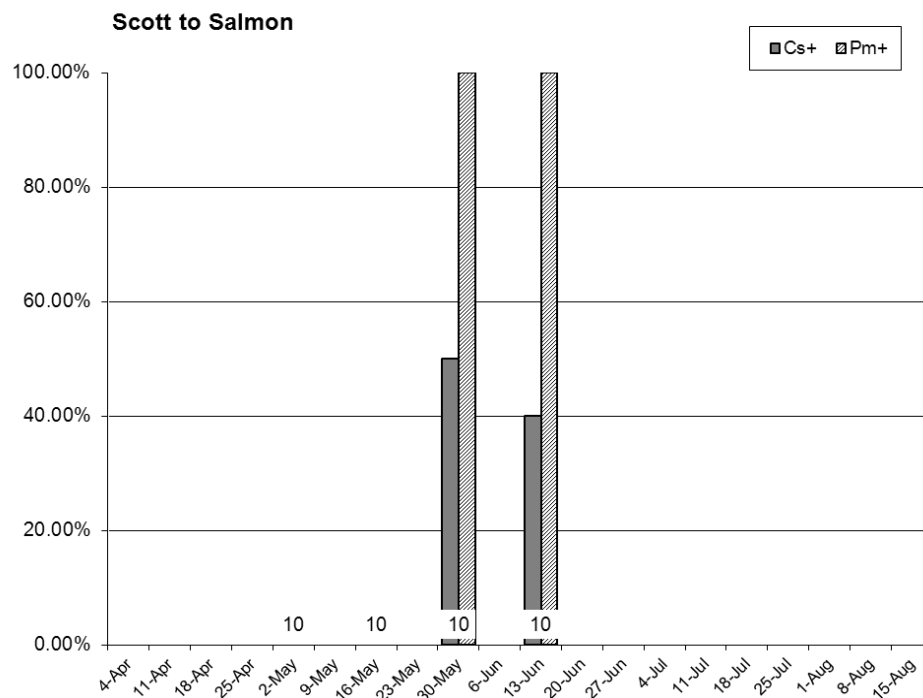


Figure 3/Table3. Weekly prevalence of *Ceratomyxa shasta* and *Parvicapsula minibicornis* infection in juvenile Fall Chinook salmon captured in the Scott to Salmon (K3) reach on the Klamath River. All data is preliminary and subject to revision.

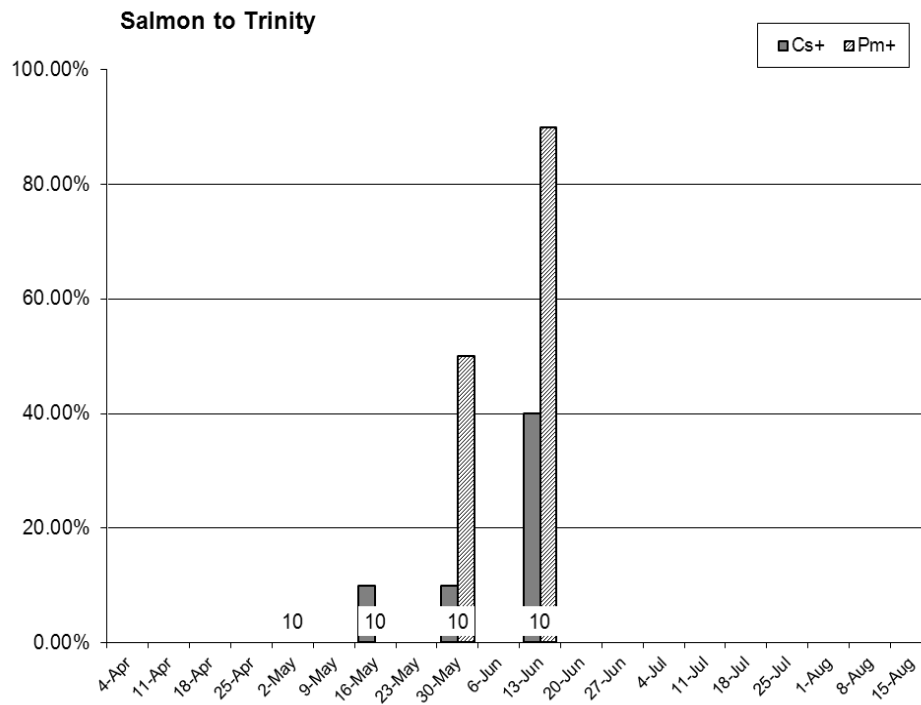


Figure 4/Table 4. Weekly prevalence of *Ceratomyxa shasta* and *Parvicapsula minibicornis* infection in juvenile Fall Chinook salmon captured in the Salmon to Trinity confluence (K2) reach on the Klamath River. All data is preliminary and subject to revision.

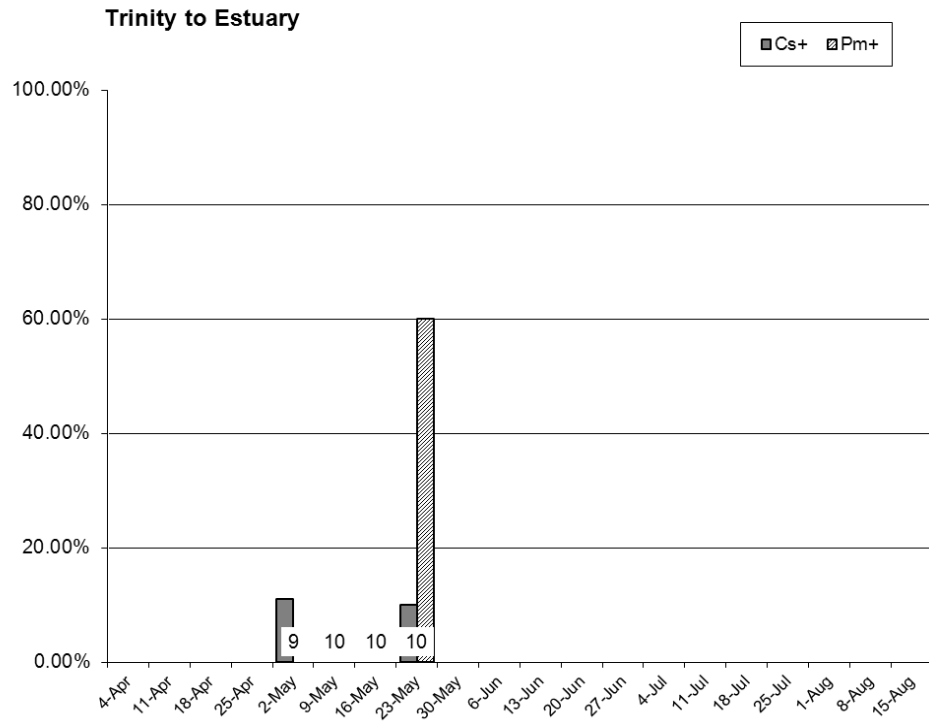


Figure 5/Table 5. Weekly prevalence of *Ceratomyxa shasta* and *Parvicapsula minibicornis* infection in juvenile Fall Chinook salmon captured in the Trinity to Estuary (K1) reach on the Klamath River. All data is preliminary and subject to revision.